"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

UNCLASSIFIED PROCESSING DATE--20NOV70

1/2 044

TITLE--NONSTATIONARY PRESSURE PULSE ACTING ON A BODY IN A LIQUID OR A GAS -U-

AUTHOR-(02)-GOLUBINSKIY, A.I., KOGAN, M.N.

COUNTRY OF INFO--USSR

SOURCE--AKADEMIIA NAUK SSSR, IZVESTIIA, MEKHANIKA ZHIDKOSTI I GAZA, JAN.-FEB. 1970.

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--PLASMA PHYSICS, PLASMA FLOW, GAS DYNAMICS, FLOW STABILITY EQUATION, LINEAR EQUATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1452

STEP NO--UR/0421/70/000/000/0114/0114

CIRC ACCESSION NO--AP0112446

UNCLASSIFIED

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UNCLASSIFIED PROCESSING DATE--20NOV70

2/2 044

CIRC ACCESSION NO--AP0112446

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DISCUSSION OF A FLOW WITH UNPERTURBED PARAMETERS AT INFINITY, UNDER THE ASSUMPTION THAT THE ANGLE BETWEEN THE SURFACE OF THE BODY AND THE FLOW AND THE DISPLACEMENT OR STRAIN RATES OF THE SURFACE ARE SMALL ENOUGH TO ASSUME THAT THE FLOW SATISFIES THE LINEARIZED GASDYNAMIC EQUATIONS. IT IS SHOWN THAT THE DIFFICULTIES INVOLVED IN SOLVING EQUATIONS WITH A LARGE NUMBER OF INDEPENDENT VARIABLES CAN BE SUBSTANTIALLY SIMPLIFIED BY ELIMINATING, WITHIN THE FRAMEWORK OF LINEAR THEORY, THE NEED OF CALCULATING A DETAILED FLOW PATTERN BY REDUCING THE DETERMINATION OF THE PULSES TO A PROBLEM OF LOWER DIMENSIONALITY. THIS IS ACHIEVED BY DETERMINING THE SUMMARY PULSES OVER A PORTION (OR THE ENTIRE) TRANSIENT PROCESS, RATHER THAN FOR EACH INDIVIDUAL MOMENT OF TIME.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

1/2 052 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--CERTAIN KINETIC EFFECTS IN CONTINUOUS MEDIA FLOWS -U-

AUTHOR-(03)-GALKIN, V.S., KOGAN, M.N., FRIDLENDER, O.G.

COUNTRY OF INFO--USSR

SOURCE--AKADEMIIA NAUK SSSR, IZVESTIIA, MEKHANIKA ZHIDOSTI I GAZA, MAY-JUNE 1970, P 13-21. 7 REFS.

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--KNUDSEN PLASMA, GAS DYNAMICS, GAS FLOW, NAVIER STOKES EQUATION, DENSE PLASMA, FLOW KINETICS, ENTHALPY, MACH NUMBER, REYNOLDS NUMBER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605008/F05 STEP NO--UR/0421/70/000/000/0013/0021

CIRC ACCESSION NO--AP0140021

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

UNCLASSIFIED PROCESSING DATE--04DEC70

2/2 052

CIRC ACCESSION NO--AP0140021

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DEMONSTRATION OF THE NECESSITY AND VALIDITY OF USING BARNETT'S EQUATIONS AND SLIP CONDITIONS FOR DESCRIBING A WIDE CLASS OF MOTIONS OF A DENSE GAS (AT KNUDSEN NUMBERS APPROACHING ZERO). NAVIER STOKES EQUATIONS WITH ATTACHMENT BOUNDARY CONDITIONS ARE USUALLY VALID FOR DESCRIBING FLOWS OF A DENSE MEDIUM AT KNUDSEN NUMBERS APPROACHING ZERO. IN ORDER TO APPLY THE SOLUTION TOWARD HIGHER KNUDSEN NUMBERS, IT IS CUSTOMARY TO USE SLIP BOUNDARY CONDITIONS AND BARNETT EQUATIONS CONTAINING TERMS OF HIGHER ORDER WITH RESPECT TO THE KNUDSEN NUMBER. HOWEVER, GENERALLY SPEAKING THE RANGE OF APPLICABILITY (IN TERMS OF THE KNUDSEN NUMBER) OF THE BARNETT EQUATIONS IS THE SAME AS THAT OF THE NAVIER STOKES EQUATIONS OS THAT THE USE OF THE BARNETT TERMS YIELDS ONLY SMALL CORRECTIONS. THE PRESENT WORK DIRECTS ATTENTION TO THE EXISTENCE OF CONTINUOUS MEDIUM FLOWS WHOSE DESCRIPTION IN THE FIRST APPROXIMATION REQUIRES THE ALLOWANCE FOR KINETIC EFFECTS (BARNETT TERMS AND SLIP). CONSIDERATION IS GIVEN TO FLOWS WHERE THE CHARACTERISTIC CHANGE IN ENTHALPY IS MUCH LARGER THAN THE CHARACTERISTIC KINETIC ENERGY. DETAILED CALCULATIONS ARE MADE FOR CASES OF SLOW STATIONARY GAS MOTIONS UNDER CONDITIONS WHERE THE MACH AND KNUDSEN NUMBERS APPROACH ZERO AT A REYNOLDS NUMBER SMALLER THAN OR EQUAL TO ZERO. THE INFLUENCE OF THE KINETIC EFFECTS IS DEMONSTRATED FOR THREE ILLUSTRATIVE PROBLEMS.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

USSR UDC: 621.396.6:629.12

BERMAN, Ya. I., VLASOV, V. I., KOGAN, N. I. et al.

"Shipboard Radar Installations and Their Use. (Handbook). Vol. 2"

Sudovyye radiolokatsionnyye stantsii i ikh primeneniye. (Spravochnoye Rukovodstvo). T. 2 (cf. English above), Leningrad, "Sudostroyeniye", 1970, 567 pp, ill. 1 r. 90 k. (from RZh-Radiotekhnika, No 11, Nov 70, Abstract No 11G65 K)

Translation: The second volume of this three-volume handbook deals with principles of design and methods of computation of the basic elements of radar installations; transmitting, receiving, waveguide-antenna and display units are considered. Materials are given on automatic tracking of targets and on taking their coordinates on a circular scanning field. The handbook is designed for an extensive range of specialists involved in radar technology. It may also be used as a classroom reference by teachers and students in the appropriate areas.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

1/2 020 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--SYNTHESIS AND STUDY OF POLYAMINES CONTAINING S-TRIAZINE RINGS -U-

AUTHOR-(02)-KUTEPOV, D.F., KOGAN, N.N.

K

COUNTRY OF INFO--USSR

SOURCE--VYSOKOMOL. SOEDIN., SER. B 1970, 12(5), 344-7

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--POLYAMINE, TRIAZINE, POLYCONDENSATION, POLYMER, CHEMICAL SYNTHESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/0982 STEP NO--UR/0460/70/012/005/0344/0347

CIRC ACCESSION NO--AP0136412

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

UNCLASSIFIED PROCESSING DATE--27NOV70

2/2 020

CIRC ACCESSION NO--AP0136412

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HEAT RESISTANT POLYAMINES WERE PREPD. BY HIGH TEMP. POLYCONDENSATION OF 2,ARYLAMINO,4,6,DICHLORO,S,TRIAZINE, 2,DIPHENYLAMINO,4,6,DICHLORO,S,TRIAZINE, (CH SUB2) SUB6 (NH SUB2) SUB2, H,C SUB6 H SUB4 (NH SUB2) SUB2, AND BENIZOINE IN DITOLYLMETHANE OR OTHER ORG. SOLVENTS. OPTIMUM REACTION CONDITIONS WERE DETD. THE POLYMERS (WHITE TO YELLOW POWDERS) WERE OBTAINED IN 82-6PERCENT YIELD AND WERE SOL. IN HCONME SUB2, ACNME SUB2, HCO SUB2 H, AND H SUB2 SO SUB4. FACILITY: MOSK. KHIM.-TEKHNOL. INST. IM. MENDELEEVA, MOSCOW, USSR.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

USSR

UDC 531.383

KOGAN, N. YA., KOGAN, L. V., Scientific Research Institute of Applied Mathematics and Cybernetics Under Gor'kiy State University imeni N. I. Lobachevskiy

"Movements of a Uniaxial Gyrostabilizer with Relay Control When Taking Into Account the Forces of Dry Friction in the Supports of the Axes (I)"

Leningrad, Izvestiya VUZ, Priborostroyeniye, No 10, 1973, pp 66-70

Abstract: The phase space and point transformation methods [D. S. Pel'por, Giroskopicatskiye sistemy, Vyssheya Shkola, 1971] were used to investigate the dynamics of a uniaxial gyrostabilizer with relay control taking into account the forces of dry friction in the supports of the stabilization axis. Viscous friction in the supports of the axes is not taken into account. With relay control the dry friction in the stabilization axis does not insure stable operating conditions of the gyrostabilizer.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

USSR

UDC: 531.383

KOGAN, N. Ya.

"Stability of a Monaxial Gyrostabilizer With Dry Friction in the Stabilization and Precession Axes"

Leningrad, Priborostroyeniye, No 6, 1972, pp 83-88

Abstract: This paper is the continuation of three earlier articles by the author named above, the first two of which were published in Izvestiya VUZ SSSR -- Priborostroyeniye (vol 11, No 12, 1968; vol 12, No 3, 1969) and in Radiofizika (No 3, 1971). The purpose of these articles is to investigate the dynamics of the single-axis gyrostabilizer by exact methods. A gyrostabilizer with friction in both axes is used as a model in the present paper. It is shown, for cases in which a frictionless gyrostabilizer is stable and neutral, that there exists a single, asymptotic stable gravitational element in the phase space of the system in the form of a section of broken line, whose link corresponds to various steady-state conditions of the gyrostabilizer or to the uniform rotation of the frame around the stabilization axis. The author is associated with the N. I. Lobachevskiy State University in Gor'kiy.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

KOGAN, N. Y2.

Gloria

SO: JPRS 56387
29 JUNE 1972

FEASIBILITY OF NEGLECTING THE SMALL TIME CONSTANTS OF THE CONTROL SYSTEMS OF A SINGLE-AXIS GYROSTABILIZER

[Article by N. Yu. Kogan, Leningrad, Izvestiya Vuzov - Priborostroyeniye, Russian, No 4, 1972, sent to editors 17 June 1971, pp 81-84]

The author has investigated the question of small time constants of a control system on the dynamics of a uniaxial gyrostabilizer.

The model of a uniaxial gyrostabilizer considered in the present report, with small time constants of a control system, is described by equations [1-3]:

$$A\dot{w} = -Hw + L_1(u) + M(\varepsilon) = 0,\quad B\dot{w} + Hw + L_2(w) = 0,\quad \dot{\varepsilon} = w - v, \qquad (1)$$

$$\dot{u}\dot{v} = \Phi(v) + f(u),\quad \dot{\varepsilon} = F(\varepsilon, v, u).$$

where u = speed of frame's turning around the stabilization axis; v = slewing angle of gyroscope around precession axis; ε = output of stabilizing motor; y = output of amplifier; A, B = inertial moments of gyrostabilizer relative to the stabilization and precession axes; H = kinetic moment of gyroscope; $L_1(u)$, $L_2(w)$ = moments of dry and viscous friction by corresponding axes; M(x) = stabilizing moment; f(v) = static parameter of pickup; a_M, b_M = time constants of amplifier and of stabilizing motor, where a_M = low positive parameter, while A, B = positive constants (not greater than unity). Functions M(x), $\Phi(v)$, F(x, y, u) and f(v) are single-valued and satisfy the following conditions: $M'_x(x) < 0$; M(0) = 0; $\Phi'_y(v) < 0$; $\Phi(0) = 0$; $F'_x(x, y, u) < 0$; $F'_y(x, y, u) > 0$; $F'_u(x, y, u) \neq 0$; F(0, 0, 0) = 0. At the conditions formulated, system (1) describes the dynamics of a uniaxial gyrostabilizer for a fairly broad class of control systems reviewed in [1-3]. In the investigation of such gyrostabilizers, we usually introduce an idealized model in

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USSR

KOGAN, R. D., POGOZHEV, I. B.

"Equivalence of Mutual Problems of Systems Optimization"

Issled. Sistem. Materialy Vses. Simpoz. [Systems Research. Materials of All-Union Symposium], Moscow, 1971, pp 147-170, (Translated from Referativnyy Zhurnal, Kibernetika, No 2, 1972, Abstract No 2 V639).

NO ABSTRACT.

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UDC 539.219.3

USSR

ZEMSKOV, G. V., KOGAN, R. L., and MIKOTINA, N. F.

"Codiffusion of Elements in Chromium Aluminizing"

Kiev, Metallofizika, No 32, 1970, pp 124-127

Translation: The research results obtained in the surface alloying of commercial iron and steel 20 with aluminum and chromium from powdered mixtures of these elements in containers with a fusible seal, are set forth. It is shown that only with a definite aluminum and chromium ratio is it possible to obtain diffusion layers simultaneously containing both elements in considerable amounts. The kinetics of the process of chromium aluminizing and the distribution of elements over the thickness of diffusion layers were studied, and the nature of the change in the concentration of alloying elements on the surface of diffusion layers depending on the content of elements in the saturing mixtures was determined.

According to the concentration curves obtained by means of the MAR-1 microroentgenospectral installations, the coefficients of chromium diffusion in a solid solution with a varying aluminum content in it were calculated. It

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USSR

ZEMSKOV, G. V., et al., Metallofizika, No 32, 1970, pp 124-127

was established that, as aluminum content in the solid solution increases, the diffusion mobility of chromium rises sharply.

Bibliography: 2 entries. Illustrations: 5.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

Coatings

USSR UDC 669.293.84

ZEMSKOV, G. V., KOGAN, R. L., LUKYANOV, R. M., and LUKYANCHENKO, YE. M., Odessa

"Diffusion Surface Alloying of Niobium with Chromium, Titanium, and Silicon"

Moscow, Izvestiya Akademii Nauk SSSR -- Metally, No 5, 1970, pp 224-226

Abstract: This paper contains an investigation of the process of formation of coatings on VN-2 niobium alloy with diffusion saturation of it by chromium, titanium, and silicon. The diffusion surface alloying was performed in a mixture of powdered saturating elements with addition of a case-hardening element. The alloy was saturated simultaneously with chromium and titanium and then silicon. The process of diffusion surface alloying was studied at various temperatures (1,000-1,200°C) and various saturation periods (1-15 hours). The distribution of the saturating elements and niobium with respect to depth of the diffusion layers was studied by the methods of microstructural analysis, x-ray micrography, and microradiography.

During simultaneous diffusion of chromium, titanium, and silicon into VN-2 alloy, as a result of the mutual effect, variation of the depth of diffusion of the elements and also the nature of their distribution in a layer by

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ZEMSKOV, G. V., et al, Izvestiya Akademii Nauk SSSR -- Metally, No 5, 1970, pp 224-226

comparison with the single-component saturation process is observed. In the case of complex alloying of the surface of niobium alloys in order to obtain multicomponent phases in the coating, it is necessary to select the process parameters so as to insure identical depth of diffusion of the saturating elements. A figure is presented which illustrates the effect of the temperature and duration of the titanium-chromizing and siliconizing processes on the depth of diffusion of the alloying elements into the alloy. From this figure it is clear that increasing the titanium-chromizing process temperature is favorable since it effectively increases the depth of penetration of chromium into the diffusion layer.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

Acc. Nr: AP0043755 KOGAN R. Ref. Code: UR 0050

PRIMARY SOURCE: Meteorologiya i Gidrologiya, 1970, Nr 3, pp 83-94

GAMMA-RAYS SURVEY OF SNOW COVER FROM AIRCRAFT

Dmitriyev, A. V.; Kogan, R. M.; Nikiforov, M. V.; Fridman, Sh. D.

Physical prerequisites and methods of measuring the snow cover by means of gamma-rays survey from aircraft are stated; problems of mapping the snow resources over large territories are being considered.

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REEL/FRAME
19770161

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USSR

VOLKOV, A. F., KOGAN, Sh. M. (Institute of Radio Engineering and Electronics, USSR Academy of Sciences)

"Collisionless Relaxation of the Energy Gap in Superconductors"

Moscow, Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, November 1973, pp 2038-2046

Abstract: Equations for the Green functions with coinciding times are derived which describe the dynamics of superconductors over a period of time which is small compared with the electron energy relaxation times τ_{ph} and τ_{ee}. The time evolution of small initial perturbations of the order parameter Δ is investigated. It is found that for initial perturbations of a certain type the energy gap relaxes only at the expense of inelastic electron collisions during times of the order of τ_{ph} and τ_{ee}. In the general case the order parameter for $t \ll \tau_{ph}, \tau_{ee}$ oscillates with a frequency $\sim 2\Delta$ and an amplitude which asymptotically decays with time according to a power law.

The article includes 30 equations and one figure. There are nine references.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

USSR

GINZBURG, V. L., and KOGAN, SH. M., Institute of Physics imeni P. N. Lebedev, Academy of Sciences USSR and Institute of Radio Engineering and Electronics, Academy of Sciences USSR

"Electron-Inertia Experiments"

Moscow, Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 61, No 3, Sep 71, pp 1177- 1180

Abstract: The authors discuss the question of the influence of deformations of a metal in the case of electron-inertia tests. In experiments already carried out, the role of the deformations had to be insignificant, which fact is in agreement with the test. Under certain conditions, however, it is absolutely essential to allow for the deformations. In the ordinary formulations of electron-inertia experiments the scientist either measures the current which is generated in the circuit by accelerating the conductor that is a part of this circuit or he finds the acceleration of the conductor by varying the current flowing across it. The experimental results can be easily expressed in terms of the "non-electro-magnetic field" E^{ei} that is associated with acceleration of the conductor a. Using quite broad arguments it is possible to see that regardless of the size of the effective mass or the current carriers in the conductor or of the sign of the Hall effect,
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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

USSR

GINZBURG, V. L., and KOGAN, SH. M., Zhurnal Eksperimantal'noy i Teoreticheskoy Fiziki, Vol 61, No 3, Sep 71, pp 1177-1180

the field $E^{ei} = ma/e$, where m is the mass and e is the free electron charge. The authors attack the problem as to the degree to which the above equation is applicable for describing the electron-inertia experiments. In order to solve this problem, they analyze an expression for the current density in a normal metal by allowing for the acceleration and deformation. They are not sure as to the cause of compensation of the electric field generated by the deformation of the metal in the field of the force of gravity. The article contains 11 bibliographic entries.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

USSR

Crystals and Semiconductors

KOGAN, SH. M., SHUL'MAN, A. YA., Institute of Radio Engineering and Electronics, Academy of Sciences, USSR, Moscow

"External Random Forces and Equations for Correlation Functions In the Theory of Nonequilibrium Fluctuations"

Leningrad, Fizika Tverdogo Tela, Vol 12, No 4, April 1970, pp 1119-1123

Abstract: This paper demonstrates the equivalence of two methods evolved at present for the description of nonequilibrium fluctuations in semiconductors. The first, the method of equations for correlation functions, or the method of moments, consists in the solution of equations just for correlation functions. These equations are established either on the basis of physical considerations or are derived. The right-hand part of such an equation is proportional to a simultaneous correlation function which develops, in turn, either from statistical or thermodynamic considerations (in equilibrium systems) or a separate equation derived for it. With the second approach, the Langevin method, the evolution in time of the fluctuations themselves is studied. The left side of the corresponding equation is obtained by linearization of the equation for the average value of the magnitude considered. In the right side, however, external random forces (or

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USSR

KOGAN, SH. M., SHUL'MAN, A. YA., Fizika Tverdogo Tela, Vol 12, No 4, April 1970, pp 1119-1123

external fluxes) are introduced which describe the fluctuation shocks from the direction of the thermostat acting on the system being investigated. For the sake of simplicity the authors compare the method of moments with the method of external fluxes for the case of spatial, homogeneous fluctuations in steady-state and homogeneous gas. The proof is also easily extended to the case of spatial, nonhomogeneous fluctuations. 10 ref. Received by editors 20 November 1969.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

Photoelectric Effect

USSR

UDC: 621.315.592

GAL'PERN, Yu.S. and KOGAN, Sh.M.

"Appearance of Transverse Photo-EMF With Unpolarized Radiation"

Leningrad, Fizika i Tekhnika Poluprovodnikov, Vol 4, No 4, 1970, pp 806-808

Abstract: In this communication an expression is obtained for the transverse photo-emf as a function of the radiation polarization for any orientation of the stretch field in the crystal. It is also established that this effect can also be obtained by the action of unpolarized radiation. The authors find that the photo-emf excited by unpolarized radiation may reach about the same value as it does in polarized radiation. At certain directions of the stretch field and incidence angle of the unpolarized radiation, however, the transverse photo-emf does not appear. For example, the effect is absent if the field or the radiation incidence direction is parallel to any of the cubic axes of the crystal /100/. The authors express their gratitude to V.I. Perel' who drew their attention to this problem.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

1/2 045 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--APPEARANCE OF TRANSVERSE PHOTO EMF WITH UNPOLARIZED RADIATION -U-

AUTHOR-(02)-GALPERN, YU.S., KOGAN, SH.M.

K

COUNTRY OF INFO--USSR

SOURCE--LENINGRAD, FIZIKA I TEKHNIKA POLUPROVODNIKOV, VOL 4, NO 4, 1970, PP 806-808

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--PHOTOELECTROMOTIVE FORCE, RADIATION EFFECT, POLARIZED SIGNAL, CRYSTAL, CRYSTAL LATTICE STRUCTURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605008/C03 STEP NO--UR/0449/70/004/004/0806/0808

CIRC ACCESSION NO--AP0139949

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

2/2 045 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0139949

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THIS COMMUNICATION AN EXPRESSION IS OBTAINED FOR THE TRANSVERSE PHOTO EMF AS A FUNCTION OF THE RADIATION POLARIZATION FOR ANY ORIENTATION OF THE STRETCH FIELD IN THE CRYSTAL. IT IS ALSO ESTABLISHED THAT THIS EFFECT CAN ALSO BE OBTAINED BY THE ACTION OF UNPOLARIZED RADIATION. THE AUTHORS FIND THAT THE PHOTO EMF EXCITED BY UNPOLARIZED RADIATION MAY REACH ABOUT THE SAME VALUE AS IT DOES IN POLARIZED RADIATION. AT CERTAIN DIRECTIONS OF THE STRETCH FIELD AND INCIDENCE ANGLE OF THE UNPOLARIZED RADIATION, HOWEVER, THE TRANSEVERSE PHOTO EMF DOES NOT APPEAR. FOR EXAMPLE, THE EFFECT IS BASENT IF THE FIELD OR THE RADIATION INCIDENCE DIRECTION IS PARALLEL TO ANY OF THE CUBIC AXES OF THE CRYSTAL (100). THE AUTHORS EXPRESS THEIR GRATITUDE TO V. I. PEREL' WHO DREW THEIR ATTENTION TO THIS PROBLEM.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

1/2 033 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--EXTERNAL RANDOM FORCES AND EQUATIONS FOR CORRELATION FUNCTIONS IN THE THEORY OF NONEQUILIBRIUM FLUCTUATIONS -U-

AUTHOR-(02)-KOGAN, SH.M., SHULMAN, A.YA.

K

COUNTRY OF INFO--USSR

SOURCE--LENINGRAD, FIZIKA TVERDOGO TELA, VOL 12, NO 4, APRIL 1970, PP 1119-1123

DATE PUBLISHED----APR70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR., PHYSICS

TOPIC TAGS--PULSE RECURRENCE, SEMICONDUCTOR PROPERTY, UNSTABLE FLOW, CORRELATION FUNCTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/0646 STEP NO--UR/0181/70/012/004/1119/1123

CIRC ACCESSION NO--AP0129813

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

2/2 033 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0129813

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THIS PAPER DEMONSTRATES THE EQUIVALENCE OF TWO METHODS EVOLVED AT PRESENT FOR THE DESCRIPTION OF NONEQUILIBRIUM FLUCTUATIONS IN SEMICONDUCTORS. THE FIRST, THE METHOD OF EQUATIONS FOR CORRELATION FUNCTIONS, OR THE METHOD OF MOMENTS, CONSISTS IN THE SOLUTION OF EQUATIONS JUST FOR CORRELATION FUNCTIONS. THESE EQUATIONS ARE ESTABLISHED EITHER ON THE BASIS OF PHYSICAL CONSIDERATIONS OR ARE DERIVED. THE RIGHT HAND PART OF SUCH AN EQUATION IS PROPORTIONAL TO A SIMULTANEOUS CORRELATION FUNCTION WHICH DEVELOPS, IN TURN, EITHER FROM STATISTICAL OR THERMODYNAMIC CONSIDERATIONS (IN EQUILIBRIUM SYSTEMS) OR A SEPARATE EQUATION DERIVED FOR IT. WITH THE SECOND APPROACH, THE LANGEVIN METHOD, THE EVOLUTION IN TIME OF THE FLUCTUATIONS THEMSELVES IS STUDIED. THE LEFT SIDE OF THE CORRESPONDING EQUATION IS OBTAINED BY LINEARIZATION OF THE EQUATION FOR THE AVERAGE VALUE OF THE MAGNITUDE CONSIDERED. IN THE RIGHT SIDE, HOWEVER, EXTERNAL RANDOM FORCES (OR EXTERNAL FLUXES) ARE INTRODUCED WHICH DESCRIBE THE FLUCTUATION SHOCKS FROM THE DIRECTION OF THE THERMOSTAT ACTING ON THE SYSTEM BEING INVESTIGATED. FOR THE SAKE OF SIMPLICITY THE AUTHORS COMPARE THE METHOD OF MOMENTS WITH THE METHOD OF EXTERNAL FLUXES FOR THE CASE OF SPATIAL, HOMOGENEOUS FLUCTUATIONS IN STEADY STATE AND HOMOGENEOUS GAS. THE PROOF IS ALSO EASILY EXTENDED TO THE CASE OF SPATIAL, NONHOMOGENEOUS FLUCTUATIONS. 10 REF. RECEIVED BY EDITORS 20 NOVEMBER 1969.

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USSR

UDC: 518.5:681.3.06

KOGAN, T. I., MOLTYANER, F. I.

"Iteration Process for Systems of Nonlinear Equations"

V sb. Mashiny dlya inzh. raschetov (Machines for Engineering Calculations--collection of works), vyp. 4, Kiev, 1971, pp 15-20 (from RZh-Kibernetika, No 12, Dec 71, Abstract No 12V968)

Translation; For a system of nonlinear algebraic or transcendental equations

$$f_i(X) \equiv f_i(x_1, \ldots, x_n) = 0 \quad (i = \overline{1, n}) \qquad (1)$$

the iteration process

$$X^{(n+1)} = Y^{(n+1)} - [2J - \Gamma_n P'(Y^{(n+1)})]\,\Gamma_n (Y^{(n+1)}), \quad (2)$$

is proposed where $Y^{(n+1)} = X^n - \Gamma_n P(X^{(n)})$.

Here $X^{(0)} = (x_1^{(0)}, \ldots, x_n^{(0)})$ is the initial approximation to solution of the system, J is a unit matrix of order n, $P(X) = f_1(X), \ldots, f_n(X))$;

$$P'(X) = \left[\frac{\partial f_i(X)}{\partial X_j}\right]_{\substack{i=\overline{1,n} \\ j=\overline{1,n}}}; \quad \Gamma_n = [P'(X^{(n)})]^{-1}.$$

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KOGAN, T. I., MOLTYANER, F. I., Mashiny dlya inzh. raschetov, vyp. 4, Kiev, 1971, pp 15-20

The proposed process has a rate of convergence of the same order as Newton's method, but in this case $[P'(X^{(n)})]^{-1}$ is calculated on every other step, which cuts down the number of calculations.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

USSR UDC 547.785.5+541.49+288.4

KOGAN, V. A., OSIPOV, O. A., CHUB, N. K., GARNOVSKIY, A. D., BURLOV, A. S., TSUPAK, Ye. B., and POLUNIN, A. A., Rostov-na-Donu State University

"Complex Compounds of Copper With Heterocyclic Aldoximes"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), No 3, Mar 72, pp 581-584

Abstract: A series of new polynuclear compounds of copper with heterocyclic aldoximes synthesized from benzimidazole were produced for the first time. Ultimate analysis and magnetochemical measurements are used to determine the composition of the compounds and the presence of an exchange interaction with perchlorate anions. Differences in the composition and properties of the complexes are determined as they are related to the nature of the anion. The IR spectra of the compounds are studied and a hypothesis is proposed for the point of coordination of the ligand with copper.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

USSR

UDC 533.275

KOGAN, V. A., and PROKHOROV, V. M.

"Study of the Dynamic Characteristics of a Sorption Humidity Sensor"

Sb. tr. po agron. fiz. (Collected Works on Agronomic Physics), No 28, 1970, pp 56-64 (from RZh-Metrologiya i Izmeritel'naya Tekhnika, No 2, Feb 71, Abstract No 2.32.1427)

Translation: This article contains a study of the inertia of a sorption humidity sensor based on an organic polymer. It is established that the equilibrium setup time with variation of the relative humidity is basically determined by the water molecule diffusion time through the sorbent film. An equation is presented which relates the equilibrium setup time to the amount of absorbed moisture. An experimental test of the diffusion nature of the process of establishing equilibrium is presented. There are 3 illustrations, 2 tables and a 6-entry bibliography.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

USSR

UDC: 541.49-546.82-546.811-547.388

KOGAN, V.A., SOKOLOV, V.P., and OSIPOV, O.A., Rostov-on-Don State University, Rostov, Ministry of Higher and Secondary Specialized Education RSFSR

"Complex Compounds of Titanium and Tin Tetrachlorides With Acetylacetone Imines"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 4, Apr 70, pp 833-838

Abstract: The authors synthesized and studied compounds of titanium and tin tetrachlorides with acetylacetone arylimines (acetylacetonaniline, acetylacetone-p-toluidine, acetylacetone-p-nitroaniline) and acetylacetone alkylimines (acetylacetone hexylimine, acetylacetone dodecylimine). The composition of the resultant complex compounds was established and their electron and vibration absorption spectra were studied. It is suggested that molecular complexes with a metal-oxygen donor-acceptor bond are formed.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

Titanium

USSR

UDC 541.49 546.831 546.821 546.811

KOGAN, V. A., SOKOLOV, V. P., OSIPOV, O. A., Rostov State University, Rostov, Ministry of Higher and Secondary Specialized Education RSFSR

"Chelate Compounds of Titanium, Zirconium and Tin With Schiff Bases"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 2, Feb 70, pp 322-324

Abstract: The authors prepared coordination compounds of titanium with salicylal-n-hexylamine (R^2) and of zirconium and tin with salicylalaniline (R^1), with all compounds conforming to the composition $MeCl_2.2(R\text{-}H)$ (R = Schiff bases). The chelate character of the resultant complexes was established by the method of IR spectroscopy.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

1/2 027 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--CHELATE COMPOUNDS OF TITANIUM, ZIRCONIUM, AND TIN WITH SCHIFF BASES -U-

AUTHOR-(03)-KOGAN, V.A., SOKOLOV, V.P., OSIPOV, O.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. OBSHCH. KHIM. 1970, 40(2), 322-4

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--MOLECULAR STRUCTURE, IR SPECTRUM, TITANIUM COMPOUND, ZIRCONIUM COMPLEX, TIN COMPOUND, SCHIFF BASE, CHELATE COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1066 STEP NO--UR/0079/70/040/002/0322/0324

CIRC ACCESSION NO--AP0126493

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

2/2 027 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0128493

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BIS(SALICYLAL)DICHLOROTITANIUM AND HEXYLAMINE IN HOT HEPH WITH A TRACE OF ACOH GAVE TICL SUB2. 2R PRIME2 WHERE HR PRIME2 EQUALS N,HEXYLSALICYLALDIMINE; SN AND ZR ANALOGS WERE PREPD. SIMILARLY FROM REACTION PRODUCTS OF SALICYLALDEHYDE (R PRIME3) AND SN OR ZR CHLORIDES, WHICH GAVE PPTS. OF COMPN. MCL SUB4.2R PRIME3, WHICH HEATED IN DECAHYDRONAPHTHALENE UNTIL HCL EVOLUTION HAD CEASED, GAVE THE APPROPRIATE CHELATES. THUS WERE OBTAINED TICL SUB2 R SUB2 PRIME1, SNCL SUB2 R SUB2 PRIME1, ZRCL SUB2 R SUB2 PRIME1 WHERE HR PRIME1 SALICYLIDENEANILINE, AND TICL SUB4.2HR PRIME1, TICL SUB4.2HR PRIME1 (PRIME15 N), CUR SUB2 PRIME1, TICL SUB4.2HR PRIME2 AND TICL SUB2.2R PRIME2. THUS NEW CHELATES OF MCL SUB2.2R TYPE WERE PREPD, AND THEIR STRUCTURE CONFIRMED BY IR SPECTRA. FACILITY: ROSTOV. GOS. UNIV., ROSTOV, USSR.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

1/2 020 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--COMPLEXES OF TITANIUM AND TIN TETRACHLORIDES WITH ACETYLACETONE IMINES -U-

AUTHOR-(03)-KOGAN, V.A., SOKOLOV, V.P., OSIPOV, O.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. OBSHCH. KHIM. 1970, 40(4), 833-8

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--TITANIUM CHLORIDE, TIN CHLORIDE, ACETONE, IMINE, COMPLEX COMPOUND, UV SPECTRUM, IR SPECTRUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/0824 STEP NO--UR/0079/70/040/004/0833/0838

CIRC ACCESSION NO--AP0134557

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

2/2 020 UNCLASSIFIED PROCESSING DATE--27NOV70
CIRC ACCESSION NO--AP0134557
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HEATING THE AROM. AMINES WITH AC SUB2 CH SUB2 IN HEXANE GAVE THE APPROPRIATE ANILS WHICH TREATED WITH METAL CHLORIDES IN C SUB6 H SUB6 GAVE THE FOLLOWING COMPLEXES (WHERE A EQUALS ACETYLACETONE ANIL; L EQUALS ACETYLACETONE O,METHYLANIL; A PRIME EQUALS ACETYLACETONE P,NITROANIL; A DOUBLE PRIME EQUALS ACETYLACETONE HEXYLIMINE; AND A TRIPLE PRIME EQUALS ACETYLACETONE DODECYLIMINE): TICL SUB4.A SUB2, RED, M. 153DEGREES; TICL SUB4.L SUB2, RED, M. 140DEGREES; TICL SUB4.A PRIME SUB2, RED, M. 128DEGREES; SNCL SUB4.A SUB2, COLORLESS, M. 152DEGREES; SNCL SUB4.L SUB2, COLORLESS, M. 142DEGREES; SNCL SUB4.A PRIME SUB2 COLORLESS, M. 120DEGREES; THE COMPLEXES WITH A DOUBLE PRIME AND A TRIPLE PRIME WERE FORMED IN 2:1 RATIO WITH TICL SUB4 AND IN 4:1 RATIO WITH SNCL SUB4, ON THE BASIS OF SPECTROSCOPIC DATA ONLY AS THE COMPLEXES COULD NOT BE ISOLATED. THE UV AND IR SPECTRA OF THE COMPLEXES INDICATE A DONOR ACCEPTOR BOND BETWEEN THE METAL AND THE O ATOM OF THE CARBONYL GROUP. FACILITY: ROSTOV.-NA-DONU GOS. UNIV., ROSTOV-ON-DON, USSR.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

1/2 014 UNCLASSIFIED PROCESSING DATE--11SEP70

TITLE--SEPARATION OF MIXTURES OF C SUB6 HYDROCARBONS OF GASOLINE FRACTIONS. IV. PHASE EQUILIBRIUM IN SYSTEMS FORMED BY C SUB6

AUTHOR--MAKAROVSKIY, YA.I., KOGAN, V.B., KONONOV, N.F., VAYNBERG, A.M.

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(2), 289-95

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, PROPULSION AND FUELS

TOPIC TAGS--CHEMICAL SEPERATION, MULTICOMPONENT CHEMICAL MIXTURE, CYCLOHEXANE, BENZENE, CYCLOPENTANE, AROMATIC ALCOHOL, PHASE EQUILIBRIUM, GASOLINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1990/2041 STEP NO--UR/0080/70/043/002/0289/0295

CIRC ACCESSION NO--AP0109973

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

2/2 014 UNCLASSIFIED PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0109973

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE MUTUAL SOLY. OF BINARY SYSTEMS CONSISTING OF HYDROCARBONS (N-C SUB6 H SUB14 (I), METHYLCYCLOPENTANE (II), CYCLOHEXANE (III), C SUB6 H SUB6 (IV), OR N-C SUB7 H SUB16 (V)) AND TETRAHYDROFURFURYL ALC. (VI) (B. 175-6DEGREES, D PRIME20 1.0501, AND N PRIME2 SUBD PRIMEO 1.4520), THE MUTUAL SOLY. OF THE TERNARY SYSTEM I II VI, THE INFLUENCE OF VI ON THE FUGACITY OF THE COMPONENTS OF THE SYSTEMS I II AND III C SUB6 H SUB6, PHASE EQUIL. AT ATM. IN THE BINARY SYSTEMS CONSISTING OF HYDROCARBONS (I, III, OR C SUB6 H SUB6) AND VI, AND THE PHASE EQUIL. IN THE TERNARY SYSTEM I II VI WERE STUDIED. AROMATIC AND NAPHTHENIC HYDROCARBONS DISSOVLE COMPLETELY AT ROOM TEMP. IN VI; THE CRIT. SOLN. TEMPS. IN VI ARE 36DEGREES AND 42DEGREES FOR I AND V, RESP. THE PARTITION COEFF. OF II BETWEEN I AND VI IS 1.4-1.5. THE SELECTIVITY OF VI IS SO LOW THAT VI IS NOT A SELECTIVE SOLVENT FOR THE EXTN. OF THE PARAFFINIC AND NAPHTHENIC HYDROCARBONS. HIGHER SELECTIVITY IS OBTAINED IN EXTRACTIVE DISTN. THE DEPENDENCE OF THE FUGACITY COEFFS. OF THE CONSTITUENTS OF A BINARY MIXT. CONTG. PARAFFINIC AND NAPHTHENIC OR AROMATIC HYDROCARBONS ON THE CONCN. OF VI IS CLEAR. THE SELECTIVITY OF VI IS 2.0-2.5 AND 1.55-1.6 FOR MIXTS. CONTG. III-IV AND I-II, RESP. VI IS EFFECTIVE FOR THE SEPN. OF PARAFFINIC, NAPHTHENIC, AND AROMATIC HYDROCARBONS BY EXTRACTIVE DISTN.

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USSR

UDC 621.385.632

DVINSKIKH, V.A., KOGAN, V.L., SHCHERBAKOV, V.N.

"Measurement Of The Noise Factor At The Outer Points Of The Operating Frequency Bands Of Low-Power TWTs"

Dokl. Vses. nauchno-tekhn. konferentsii po radiotekhn. izmereniyam. T 2 (Proceedings Of The All-Union Scientific-Technical Conference On Radio Engineering Measurements. Vol. 2), Novosibirsk, 1970, pp 23-26 (from RZh--Elektronika i yeye primeneniye, No 2, February 1971, Abstract No 2A178)

Translation: In order to tune every low-noise traveling-wave tube it is necessary simultaneously to have information on the noise factor in all operating frequency bands. However, it is possible to reduce the number of measurements of the noise factor to two (at the outer points of the band) if a priori data on the concave character of the dependence of the noise factor on the frequency is employed. The work in question is devoted to a justification of this type of dependence. In conclusion, a two-channel measurer of the noise factor is described, which assures simultaneous measurement at two points of the band. 3 ref. N.S.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

USSR

UDC 621.314.61

KOGAN, V.I., RYABTSEV, V.M.

"Supplementary Semiconductor Filter"

Elektron. tekhnika. Nauchno-tekhn. sb. Tekhnol. i organiz. proiz-va (Electronic Technology. Scientific-Technical Collection. Technology And Organization Of Production), 1970, Issue 2(34), pp 110-114 (from RZh--Elektronika i yeye primeneniye, No 1, January 1971, Abstract No 1B480)

Translation: The circuit is described of a semiconductor filter which is intended for supplementary smoothing of the pulsations of regulated high-voltage sources of d-c voltage. The filter is connected in series with the load at the output high-voltage bus of the rectifier. The third lead of the semiconductor filter is connected across a high-voltage capacitor with the grounded terminal of the rectifier. The semiconductor filter comprises three transistors included in the circuit of a composite emitter follower, three semiconductor diodes, a capacitor, and two resistors. The circuit developed for the filter assures supplementary smoothing of pulsations of approximately two orders of magnitude in a wide range of load currents irrespective of the magnitude of the d-c voltage of the source. The circuit elements assure protection of the transistors from voltage surges. A computation is presented for the basic parameters of the filter and an indication is given with respect to their optimization. 3 ill. 1 tab. 2 ref. L. R.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

USSR UDC: 621.317.783(088.8)

KOGAN, V. L., SHCHERBAKOV, V. N.

"A Self-Balancing Thermistor Bridge for Measuring SHF Power"

USSR Author's Certificate No 255407, filed 19 Aug 68, published 27 Mar 70 (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12A325 P)

Translation: The proposed self-balancing thermistor bridge differs from existing bridges for similar purposes in the fact that a comparison device with a short pulse generator is used as the balance pickup; the heating generator is a Kipp oscillator whose input is connected to the output of the balance pickup, while the output is connected to the base of a transistor. As the SHF power level changes, a change is observed in the duty factor of the voltage pulses generated across the thermistor. This variation is indicated on a dial meter, which gives increased precision. E. L.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

USSR UDC 669.71.053.4(088.8)

PEREVOSKIN, YU. L., FURMAN, A. A., KOGAN, V. M., VAKSMAN, P. A., and KARTALOV, B. V.

"Method for Preparing Solutions of Basic Aluminum Chlorides"

USSR Author's Certificate No 260624, filed 29 Feb 68, published 5 May 70 (from RZh-Metallurgiya, No 11, Nov 70, Abstract No 11 G106)

Translation: A method is proposed for the preparation of solutions of basic Al chlorides by mixing Al $(OH)_3$ with HCl and subsequent neutralization of the obtained solution. To increase the purity of product, the neutralization of the solution is conducted with metallic Al in quantities, which ensure formation of the basic Al chlorides of the composition $Al_n(OH)_{3n-1}Cl$, where n = 1-3.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

KOGAN, V.M.

Working Ability AND the ORGANIZATION of Handicapped Labor

31 Mar 71 108 PSYCHIATRICS

130. USSR

DOMOSTOYICH, Ye. M., KOGAN, V. M., [illegible], and CHARKINA, N. P., Central Scientific Research Institute for Working Ability and the Organization of Handicapped Labor

"A Psycho-Physiological Investigation of the Dynamics of Capacity for Mental Work"

Moscow, Voprosy Psikhologii, Vol 6, Nov-Dec 70, pp 86-93

Abstract: Observations of subjects performing mental work indicate four successive stages of performance: 1) Learning the task; 2) Steady performance; 3) Declining performance with fatigue. A definite correlation was found between the flow of blood to the brain and the stages of performance: blood supply tends to increase as performance improves during the second stage, then level off during the third stage and decline as fatigue sets in. Rheoencephalographic coefficient at both the front and rear portions of the brain increases throughout the first two stages of the task; during the stable phase of work the values for the rear portions of the brain fall off, while those for the frontal portions remain steady at a high level. In patients at the first stage of hypertonicity the increase terminates halfway through the period of improvement and remains stable thereafter; in patients with second stage hypertonicity approximately the same early improvement is noticed, but the blood supply at the rear of the brain

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50. Foreign Press Digest 31 [illegible] 71

USSR

DOMOSTOYICH, Ye. M., et al., Voprosy Psikhologii, Vol 6, Nov-Dec 70, pp 86-93

tends to fall off halfway through the initial stage of work and remain at a low level thereafter. The percentage increase in normal subjects is about ten percent, in

The authors draw the following conclusions.

1. Simultaneous investigation of psychological and physiological factors is a valuable tool in distinguishing different stages of intellectual activities.

2. The entire brain participates in intellectual work, but the "epicenter" of effort shifts over time. Initially it is associated with the visual centers (the task performed in these experiments required the subjects to make frequent use of a correspondence table between letters and numbers -- as the task progressed this correspondence tended to be memorized); later, as the task is "interiorized," this epicenter shifts to the frontal portions of the brain.

3. These tendencies are more clearly observed in healthy persons and are less

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evident in hypertonic patients.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

1/2 007 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--PREPARATION OF SOLUTIONS OF BASIC ALUMINUM CHLORIDES -U-

AUTHOR-(05)-PEREVOZKIN, YU.L., FURMAN, A.A., KOGAN, V.M., VAKSMAN, P.A., KARTALOV, B.V.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 260,624

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970 47(4)

DATE PUBLISHED--06JAN70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL PATENT, ALUMINUM HYDROXIDE, ALUMINUM CHLORIDE, AQUEOUS SOLUTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1993/0030 STEP NO--UR/0482/70/000/003/0000/0000

CIRC ACCESSION NO--AA0113030

UNCLASSIFIED

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2/2 007 UNCLASSIFIED PROCESSING DATE--020CT70

CIRC ACCESSION NO--AA0113030

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SOLNS. OF BASIC AL CHLORIDES WERE PREPD. BY MIXING AL(OH)SUB3 WITH HCL AND NEUTRALIZING THE RESULTING SOLN. WITH ENOUGH METALLIC AL TO GUARANTEE THE FORMATION OF AL SUBN (OH) SUB3N-1 CL, WHERE N WAS 1-3.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

UDC 621.793:661.183.2:541.183

USSR

BULATOVA, R. F., KOGAN, V. S., KUZIN, I. A., and LOSKUTOV, A. I.

"Low-Temperature Adsorption on Metallized Carbon"

Leningrad, Zhurnal Prikladnoy Khimii, Vol XLIV, No 1, Jan 71, pp 217-219

Abstract: Metallizing of active carbon at room temperature and normal atmospheric pressure produces a considerable increase in its thermal conductivity, with only a slight deterioration in its adsorption capability.

SKT carbon with full and partial copper metallizing was tested under cryovacuum conditions to determine if the above effects appeared there as well.

It was found that partially metallized SKT carbon granules are the most effective for use in cryovacuum devices using any considerable thickness of sorbent. Time required for establishment of adsorption equilibrium remains practically constant with this type of carbon for layer thicknesses from 2 up to 30 mm. Adsorption capacity for $P = 1 \cdot 10^{-6}$ mm Hg and $T = 20.4°$ is independent of layer thickness.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

USSR UDC: 615.361.419.014.413

DATSENKO, B. K., BULATOVA, R. F., PUSHKAR', N. S., ITKIN, Yu. A., KOGAN, V. S., and KOZ'MIN, Yu. V., Ukrainian Institute for the Advanced Training of Physicians, Ministry of Health USSR, and Physico-technical Institute, Academy of Sciences Ukrainian SSR, Kharkov

"Mechanism of the Protective Action of Polyethylene Oxide on Bone Marrow Cells Freezing to -196°C"

Moscow, Problemy Gematologii i Perelivaniya Krovi, Vol 15, No 11, Nov 70, pp 32-37

Abstract: X-ray diffraction analysis and low-temperature crystallography showed that little polyethylene (as compared to glycerin) penetrates bone marrow cells frozen to -196°C. The bulk of the substance remains outside, forming a coating around the cells, and hence exerts a protective effect. Electron microscope study of erythrocytes present in the frozen bone marrow cells revealed many cavities formed as a result of intracellular crystallization. The size of the pieces of ice increased from the periphery to the center, where a large ice crystals were sometimes found. In the light of the suggested mechanism of action of

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USSR

DATSENKO, B. M., et al, Problemy Gematologii i Perelivaniya Krovi, Vol 15, No 11, Nov 70, pp 32-37

polyethylene oxide, the increased number of crystals in the erythrocytes from the periphery to the center is considered to be the result of a quantitative decrease in the cryophylactic agent in the cells in the same direction.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

USSR UDC: 632.95

SHCHEGLOV, Yu. V., KULIKOV, G. P., KOGAN, V. Sh., PROKOF'YEV, A. N., KOVALENKO, I. S.

"Dialkyl Phosphites -- Synergists of 2,4-Dichlorophenoxyacetic Acid Esters"

Tr. Ul'yanovsk. s.-kh. opytn. st. (Works of the Ul'yanovsk Experimental Agriculture Station), 1971, 5, pp 121-133 (from RZh-Khimiya, No 7, Apr 72, Abstract No 7N642)

Translation: Among the dialkyl phosphites, the most promising synergist with respect to butyl 2, 4-dichlorophenoxyacetate (I) is dibutylphosphite (II). The addition of 5-20% of II to I increases the herbicidal activity of I by a factor of 1.5-2, particularly against annual and perennial dicotyledonous weeds. A mixture of I and II controls perennial rhizome weeds better than does I alone. The addition of II to I does not increase its phytotoxicity for cereal plants. T. A. Belyayeva.

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USSR

KULIKOV, G. P., KOGAN, V. Sh., PROKOF'YEV, A. N., KOVALENKO, I. S.

"Effectiveness of Autumn-Spring Application of Mixture of 2,4-D Butylester and Dibutylphosphite in Control of Perennial Shoot Weeds"

Tr. Ul'yanovsk. S.-kh. Opytn. St. [Works of Ul'yanov Agricultural Experimental Station], No 5, 1971, pp 108-113 (Translated from Referativnyy Zhurnal, Khimiya, No 3, 1972, Abstract No 3 N664 by T. A. Belyayeva).

Translation: A combination of autumn (post-harvest) treatment with 2,4-D butylester and spraying during the phase of tillering successfully suppresses both shoot and annual weeds. Addition of 5% dibutylphosphite increases the effectiveness of the herbiside, allowing the rate of expenditure to be halved.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

USSR

UDC 577.391:611.81/82

TER-AVETISYAN, A. T., and KOGAN, V. Yu., Radiobiology Sector, Ministry of Health Armenian SSR

"Combined Effect of X-Ray Irradiation and Immunodepressants on Morphological Changes of Blood and Bone Marrow Cells"

Yerevan, Biologicheskiy Zhurnal Armenii, Vol 25, No 9, 1972, pp 54-58

Abstract: White mice and rats were irradiated and given combinations of cytostatic drugs (antilymphocytic serum, trimitan, thiophosphamide, and three other drugs) to test the combined effect of such treatment on blood-forming cells. Results were similar in rats and mice. In peripheral blood, quantitative changes included an overall reduction of leukocytes to a minimum by the 4th day after treatment, and variable recovery times from 30 to 90 days after treatment, lymphocytes taking longer than granulocytes. Lymphopenia was noted for a short time in some groups. Hypersegmentation of neutrophils was observed. In the bone marrow the percentage content of hemocytoblasts and myeloblasts decreased somewhat in all groups, mature neutrophils increased somewhat, and lymphocytes and monocytes disappeared altogether. Recovery occurred within 30 days. Combination of immunodepressants and irradiation caused more profound changes in this case. In general, changes in bone marrow cells were reflected

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USSR

TER-AVETISYAN, A. T. and KOGAN, V. Yu., Biologicheskiy Zhurnal Armenii, Vol 25, No 9, 1972, pp 54-58

by peripheral blood changes. Thus the damage to blood-forming cells in bone marrow and, consequently, in peripheral blood is short-term with full recovery 30 days after treatment as a rule.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

USSR UDC 62-50

KOGAN, Ya. A.

"Some Problems of the Synthesis of Nonlinear Control Systems when Noise is Present"

Moscow, Metody Optimizatsiy Avtomaticheskikh Sistem, 1972, pp 208-219.

Abstract: The problem of control of a multiplicative object in continuous time and the problem of dual control of a parabolic object are solved. Approximating formulas are presented. The problems are solved in a limited area.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

KOGAN, YA. A.

Computer systems

6WR:A

SO: JPRS 55352
6 Mar 72

SOME PROBLEMS OF OPTIMIZATION OF COMPLEX COMPUTATION SYSTEMS

[Article by Ya. A. Kogan; Moscow, V Vsesoyuznoye Soveshchaniye po Problemam Upravleniya, Moscow, 1971, Referaty Dokladov, Russian, Part I, 1971, pp 87-89]

The modern computer is a complex system often including tens and even hundreds of devices for different functional purposes. The control of the operation of such a system is automated by means of special software programs. One of the central problems when developing the software for a computer is the problem of controlling the distribution of the basic resources of the machine — the central processor time, memory capacity the communications channels, and so on. The solution of this problem is greatly complicated by the fact that instead of strict sequential processing of the programs which occurs in computers of previous generations, the third and fourth generation computers are designed for reception and execution of operations arriving for processing at unpredictable points in time and requiring the most varied and a priori unkown expenditures of the computer resources.

The noted characteristics of modern computers permit the statement that the solution of the problem of creating software aimed at optimizing utilization of the computer is impossible to obtain without constructing mathematical models of the operation of the computer.

In the report a study is made of mathematical models of distribution of the central processor time in computer systems with time sharing and storage spaces in multiprogramming computation systems. A mathematical statement of the corresponding optimal problems is presented on the basis of these models, and means of solving these optimal problems are indicated.

It must be noted that although the problems of controlling the distribution of these two resources are now the center of attention of researchers and many papers have been devoted to them (see, for example, surveys [1], [2]), they are still far from their final solution. At the present time, a number of control algorithms have been proposed for the distribution of the central processor time and the memory allocation. However, as a result of absence of strict statements of the corresponding optimal problems, the quality of these algorithms is essentially impossible to estimate.

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USSR UDC 621.785.532:669.15'24'26-;94

KOGAN, YA. D., and BUKAREV, V. N., Moscow, Automobile and Road Institute

"High-Temperature Nitriding of Chrome and Chrome-Nickel Steels"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 2, 1971, pp 19-22

Abstract: The process of high-temperature nitriding is studied as a method for intensification of diffusion nitrogen saturation of certain high-alloy ferrite and austenitic steels. Steels studied included OKh13, Kh16 ferrite and Kh18N9T austenite. Nitriding was performed at 600-1000° for 1-3 hr in a medium of ammonia. The high-temperature nitriding accelerated the process of diffusion saturation of the steel with nitrogen, producing a layer 0.20-0.27 mm deep with HV 750-1000 on the ferrite steels and 0.09 mm deep with HV 950 on the austenitic steel.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

1/2 010 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--ANALYSIS OF IMPURITIES IN GASES -U-

AUTHOR-(05)-RYBIN, E.N., KOGAN, YA.I., KOZHEVNIKOV, A.G., LYUSBAKUNIN, G.G., PANKRATOVA, M.E.
COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 262,484
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--26JAN70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL PATENT, AMINO ALCOHOL, CHEMICAL PURITY, GAS ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1994/0182 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0114568
UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

2/2 010 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AA0114568

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE METHOD OF ANALYZING THE IMPURITIES IN GASES DESCRIBED IN U.S.S.R. 262,484, THE LEVEL OF DETECTION OF CONDENSATION NUCLEI, CONTG. MOLS. OF AN ACID OR AN ANHYDRIDE, IS INCREASED BY USING AMINO ALCS.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

USSR

UDC 591.04:612.014.3

ZAGUSKIN, S. L., and KOGAN, Ye. A., Recommended by the Department of Human and Animal Physiology, Rostov State University

"Effects of Rhythmic Mechanical and Light Stimulation on the Impulse Activity of Neuroreceptor Cells"

Moscow, Biologicheskiye Nauki, No 5, 1971, pp 27-35

Abstract: To study the effects of rhythmic stimulation on the rhythmic activity of neurons, the single stretch receptor neuron of the river lobster was isolated and its cell body was stimulated with repetitive light and mechanical (stretch) stimuli with a frequency ranging from 20 to 200 stimuli per minute, while action potentials were recorded from the nerve fiber. Repetitive mechanical stimulation of sufficient intensity and frequency suppressed the generation of certain action potentials and thus disrupted the rhythmic discharge by the cell body. Rhythmic stimulation with light remained without effect. However, prolonged continuous illumination of the cell body with ultraviolet rays increased the frequency of action potentials and caused arrhythmia. The rhythm of the stimulation was never duplicated by the rhythm of the action potentials. The findings indicate that the receptor rapidly responds to changes in external stimulation and discharges an appropriately coded information to the center.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

1/2 018 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--APPLICATION OF THE VARIATIONAL METHOD FOR STUDYING DISSIPATING INSTABILITY IN A PLASMA -U-

AUTHOR-(03)-KOGAN, YE.YA., MOISEYEV, S.S., ORAYEVSKI, V.N.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL TEKHNICHESKOI FIZIKI, VOL. 40, APR. 1970, P. 711-716

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--PLASMA INSTABILITY, MAGNETIC FIELD EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1320 STEP NO--UR/0057/70/040/000/0711/0716

CIRC ACCESSION NO--AP0124971

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

2/2 018 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0124971

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ESTIMATION OF THE STABILITY OF DISSIPATING SYSTEMS, SUCH AS A PLASMA, USING A GENERAL RELATION BETWEEN THE ENERGY BALANCE OF THE WAVE AND THE MEDIUM. THE TRANSFORMATION OF THE SUYDAM CRITERION FOR NONIDEAL MHD IS EXAMINED. A STUDY IS ALSO MADE OF THE INSTABILITY IN SYSTEMS WITH A CORRUGATED CURVATURE OF THE MAGNETIC FIELD FORCE LINES. WHERE POSSIBLE, TWO DIFFERENT VARIATIONAL APPROACHES TO THESE PROBLEMS ARE COMPARED. FACILITY: AKADEMIIA NAUK UKRAINSKOI SSR, INSTITUT FIZIKI, KIEV, UKRAINIAN SSR.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

USSR

UDC 51

KOGAN, YU. O.

"A problem of Calendar Planning"

V sb. Sistemotekhnika (Systems Engineering--collection of works), Kiev, 1971, pp 147-165 (from RZh-Kibernetika, No 12, Dec 72, Abstract No 12V390)

Translation: A study was made of the problem of compiling the calendar schedule and chart for the output of new and revised programs for the theater, the opera and the ballet. The solution algorithm is described, and an example is given.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

1/3 · 023 UNCLASSIFIED PROCESSING DATE--090CT70

TITLE--THE PROBLEM OF SELECTING THE OVALITY OF PISTON RINGS -U-

AUTHOR--KOGAN, YU.A.

K

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, AVTOMOBIL'NAYA PROMYSHLENNOST', NO 4, APR 70, PP 7-9

DATE PUBLISHED----APR70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, PROPULSION AND FUELS

TOPIC TAGS--ENGINE PISTON, METAL RING, INTERNAL COMBUSTION ENGINE, PRESSURE DISTRIBUTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1995/1514 STEP NO--UR/0113/70/000/004/0007/0009

CIRC ACCESSION NO--AP0116931

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

2/3 023 UNCLASSIFIED PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0116931

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THIS ARTICLE DEALS WITH THE PROBLEM OF SELECTING THE OPTIMUM OVALITY OF PISTON RINGS FOR FOUR STROKE ENGINES, WHICH HAS NOT BEEN YET SUFFICIENTLY INVESTIGATED. HOWEVER, THE QUALITY OF COMPRESSION DEPENDS UPON THE MAGNITUDE OF PISTON RING OVALITY. IT WAS ASSUMED FOR GENERALIZATION PURPOSES, THAT THE DEFORMED CYLINDER HAS THE SHAPE OF AN ELIPSE AND THE DIFFERENCE OF ITS AXES IS EXPRESSED BY D SUB2 MINUS D SUB1 EQUALS E SUB1. THIS ASSUMPTION MAKES IT POSSIBLE TO CALCULATE THE VARIATION OF RING PRESSURE AGAINST THE CYLINDER WALL WITH CYLINDER DEFORMATION AND WEAR TAKEN INTO ACCOUNT. EXPRESSIONS ARE DERIVED FOR THE RING SHAPE IN A FREE STATE; THE TRANSLATION OF ITS POINTS ON A WORKING FACE, WHEN THE RING IS IN PLACE IN THE CYLINDER; AND THE PRESSURE OF THE RING AGAINST THE DEFORMED CYLINDER WALL. PRESSURE DISTRIBUTION CALCULATED BY THIS FORMULA, ON THE WALL OF A DEFORMED CYLINDER OF A ZIL, 130 ENGINE IS PRESENTED IN A GRAPH. EXPERIMENTAL DATA ON PRESSURE DISTRIBUTION TAKING THE DEFORMATION AND WEAR OF A CYLINDER INTO ACCOUNT WERE OBTAINED BY A TENSOMETRIC ELECTRONIC ARRANGEMENT. A BRIEF DESCRIPTION AND A PHOTOGRAPH OF THE ARRANGEMENT ARE PRESENTED. A COMPARISON OF THEORETICAL AND EXPERIMENTAL DATA SHOWS A SATISFACTORY AGREEMENT. A FORMULA IS DERVICED WHICH ESTABLISHES A RELATIONSHIP BETWEEN THE MAXIMUM OVALITY E SUBM OF A RING, ADMISSIBLE UNDER CONDITION OF ITS FIT WITHOUT CLEARANCE, AND THE CONSTRUCTION PARAMETERS OF A RING ACCOUNTING FOR THE EFFECT OF CYLINDER DEFORMATION AND WEAR.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

3/3 023 UNCLASSIFIED PROCESSING DATE--090CT70

CIRC ACCESSION NO--AP0116931

ABSTRACT/EXTRACT--THIS FORMULA SHOWS, THAT AT GIVEN CONSTRUCTION PARAMETERS, THE SMALLER THE DEFORMATION AND WEAR OF A CYLINDER, THE GREATER THE OVALITY OF RING TO BE SELECTED. THE MAXIMUM VALUES OF OVALITY OF PISTON RINGS FOR VARIOUS ENGINE MODELS, TAKING INTO ACCOUNT THE PRODUCTION DISPERSION OF GEOMETRICAL DIMENSIONS, WERE CALCULATED IN ORDER TO OBTAIN THE REFERENCE VALUES OF ADMISSIBLE LIMITS FOR THE MANUFACTURING DEVIATION OF OVALITY.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

USSR UDC 666:6:621.791.3:620.172.251.2

KOGAN, Yu. N. and MARKOVSKIY, V. M.

"Investigation of the Mechanical Strength of Joints of Ceramic Materials With Metals at Elevated Temperatures"

Moscow, Zavodskaya Laboratoriya, No 5, 1972, pp 596-598

Abstract: The present work is the first stage in a study of the thermomechanical properties of joints of the ceramic material 22KhS with metals, with respect to stretching within the temperature range from 20 to 950-1000°. A procedure has been developed for investigating the mechanical strength of joints of the ceramic material with metals at elevated temperatures. Special clamps were designed and produced for a machine of the PRV-302 type, intended for testing specimens of refractory materials for stretching and short-term creep in a vacuum or in an inert-gas medium. Results of determination of the tensile strength of joints of material 22KhS with metals at temperatures to 1000° are presented. 3 figures. 2 tables. 3 references.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

Navigation Aids

USSR

UDC: 621.397

DRUZIN, Ya. V., KOGANER, S. E.

"Displaying Navigational Data on a Television Screen"

V sb. Materialy Nauch.-tekhn. konf. Leningr. elektrotekhn. in-t svyazi. Vyp. 3 (Materials of the Scientific and Technical Conference of Leningrad Electrical Engineering Institute of Communications--collection of works, No 3), Leningrad, 1971, pp 65-70 (from RZh-Radiotekhnika, No 3, Mar 72, Abstract No 3G267)

Translation: The authors consider the principles of measuring the coordinates of a remote object in accordance with data extracted from its TV image. Resumé.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

1/3 040 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--HIGH ENERGY ELECTRONS IN CIRCUMTERRESTRIAL SPACE -U-

AUTHOR-(04)-GRIGOROV, N.L., KALINKIN, L.F., KOGANLASKINA, YE.I., SAVENKO, I.A.
COUNTRY OF INFO--USSR

SOURCE--MOSCOW, KOSMICHESKIYE ISSLEDOVANIYA, VOL VIII, NO 3, 1970, PP 418-422
DATE PUBLISHED--------70

SUBJECT AREAS--ATMOSPHERIC SCIENCES, SPACE TECHNOLOGY, PHYSICS

TOPIC TAGS--HIGH ENERGY PARTICLE, ELECTRON FLUX, ENERGY SPECTRUM, TELESCOPE, CHERENKOV DETECTOR, SCINTILLATION COUNTER, STRATOSPHERE, PRIMARY COSMIC RAY/(U)PROTON 1 UNMANNED LABORATORY, (U)PROTON 2 UNMANNED LABORATORY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3005/0514 STEP NO--UR/0293/70/008/003/0418/0422

CIRC ACCESSION NO--AP0132714
UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

2/3 040 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0132714

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN EXPERIMENT WAS CARRIED OUT FOR DIRECT MEASUREMENT OF ELECTRON FLUXES AND DETERMINING THEIR ENERGY SPECTRUM IN CIRCUMTERRESTRIAL SPACE AT ALTITUDES 200-600 KM USING THE INSTRUMENT CARRIED ON THE SPACE STATIONS "PROTON-1" AND "PROTON-2". FIGURE 1 IN THE TEXT IS A DIAGRAM OF THE INSTRUMENT, A TELESCOPE FORMED BY SCINTILLATION AND GAS CERENKOV COUNTERS. THE DATA PRESENTED HERE INDICATE THAT BOTH IN THE STRATOSPHERE (AT ALTITUDES 25-40 KM) AND AT GREATER ALTITUDES (200-600 KM) THERE ARE CONSIDERABLE FLUXES OF ELECTRONS OF QUITE HIGH ENERGIES (E SUBE GREATER THAN OR EQUAL TO 10 PRIME7 EV). LARGE FLUXES OF "DIRECT" ALBEDO ELECTRONS IN THE STRATOSPHERE CAUSED BY THE INTERACTION BETWEEN PRIMARY COSMIC RAYS AND ATMOSPHERIC MATTER RESULT IN THE INJECTION OF THESE PARTICLES INTO CIRCUMTERRESTRIAL SPACE. CONSIDERABLE VARIATIONS IN TIME OF SECONDARY FLUXES OF SECONDARY ELECTRONS IN THE STRATOSPHERE, NOT ASSOCIATED WITH VARIATIONS IN THE INTENSITY OF PRIMARY COSMIC RAYS CAN BE REGARDED AS AN INDICATION OF THE EXISTENCE OF A "RESERVOIR" IN CIRCUMTERRESTRIAL SPACE INWHICH THERE IS AN ACCUMULATION OF ELECTRONS OF QUITE HIGH ENERGIES, THAT IS, EVIDENCE OF A RELATIVELY PROLONGED RETENTION OF THESE PARTICLES BY THE EARTH'S MAGNETIC FIELD. WHEN THE MAGNETOSPHERE IS DISTURBED THEY "LEAK" INTO THE ATMOSPHERE. HOWEVER, THERE IS AT PRESENT NO ADEQUATE CLARITY CONCERNING THE DETAILS OF THE MECHANISM OF TRAPPING OF ALBEDO HIGH ENERGY PARTICLES BY THE EARTH'S MAGNETIC FIELD, THEIR RETENTION IN THE FIELD, AND THE DIRECT CAUSES FOR THE LEAKAGE.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

3/3 040 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0132714

ABSTRACT/EXTRACT--IT CAN BE POSTULATED THAT LONG TERM OBSERVATIONS AT ALTITUDES GAMMA 10 PRIME2 -10 PRIME3 KM WITH SIMULTANEOUS MEASUREMENTS WITH STRATOSPHERIC BALLOONS WILL MAKE IT POSSIBLE TO CLARIFY THE PRINCIPAL MECHANISMS OF FORMATION OF STRONG FLUXES OF HIGH ENERGY ELECTRONS IN CIRCUMTERRESTRIAL SPACE AND THEIR DUMPING INTO THE EARTH'S ATMOSPHERE.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

USSR

UDC 62-507

KOGANOV, A. V.

"Rate of Modeling of Computing Media Using Lattices with Reduced Dimensionality"

Moscow, Problemy Peredachi Informatsii, Vol 7, No 2, 1971, pp 97-105.

Abstract: Computing media based on lattices with elements having limited numbers of states and limited range of information collection are studied. The possibility is studied of modeling such media using media of the same type, but with reduced dimensionality. It is proven that when dimensionality is reduced from n to m $\leq$ n, information processing is retarded by $c \cdot t^{[n/m]}$ and that for each n there is a medium of dimensionality n which cannot be modeled more rapidly than with a delay of $ct^{n/m}$ (c > 0, t = time).

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

USSR

KOGANOVA, I. M., KAGANOV, M. I.

"Theory of Sound Generation by Charged Particles. θ-Flash Sound Excitation"

Leningrad, Fizika Tverdogo Tela, Vol 15, No 5, 1973, pp 1536-1543

Abstract: A theoretical study was made of the characteristic mechanism of sound generation by charged particles resulting from the occurrence of a region of local heating around the fast particle track. The macroscopic theory of radiation of sound by a charged particle caused by thermoelastic dynamic stresses occurring near the track is constructed. The investigation is performed within the limits of a two-temperature model. The distribution of the emitted sound energy with respect to frequencies and the total radiation energy were calculated in two limiting cases: spherically symmetric and cylindrically symmetric temperature distribution.

A comparison of the results obtained with the intensity of Cerenkov sound emission [M. I. Kaganov, et al., ZhETF, No 31, 232, 1956] indicates that the radiation from the mechanism investigated here can constitute a noticeable portion of the total sound radiation by a charged particle. In some cases the θ-flash radiation exceeds the Cerenkov radiation.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

UDC 541.183.5

USSR

KOGANOVSKIY, A. M., LEVCHENKO, T. M., KIRICHENKO, V. A., Institute of Colloidal and Water Chemistry, Academy of Sciences Ukrainian SSR

"Procedure for Calculating the Magnitudes of the Standard Decrease in Free Energy of Adsorption on Activated Charcoal from Aqueous Solutions"

Kiev, Ukrainskiy Kimicheskiy Zhurnal, Vol XXXVII, No 5, 1971, pp 506-507

Abstract: Two methods of calculating the concentrations of the substance in the adsorption layer were investigated. The methods are based on determining the specific surface of the adsorbent and the volume of the micropores. The variation of the magnitude of $\lg C_{ads}/C_{equil}$ is plotted as a function of C_{equil} for adsorption of benzene, phenol and analine on activated charcoal from aqueous solutions with respect to the magnitude of the specific surface and the volume of the micropores, where C_{ads} is the concentration of substance in the adsorption layer of the activated charcoal. The advantage of the first method over the second is that when calculating the surface concentration by the first method, in addition to the experimentally defined magnitude of the specific adsorption, it is necessary to know only the area occupied by a molecule of the substance in the adsorption layer which is found by a projection of the molecule on the plane executed considering the van der Waals

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KOGANOVSKIY, A. M., et al., Ukrainskiy Kimicheskiy Zhurnal, Vol XXXVII, No 5, 1971, pp 506-507

radii of the atoms. By the second method it is necessary precisely to know the specific weight of the solid substances at their melting point.

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UDC: 541.183.5

KOGANOVSKIY, A. M., LEVCHENKO, T. M., and KIRICHENKO, V. A., Institute of Colloidal Chemistry and Chemistry of Water, Academy of Sciences USSR

"Adsorption of Heterocyclic Compounds on Carbon Adsorbents From Water Solutions"

Kiev, Ukrainskiy Khimicheskiy Zhurnal, Vol 36, No 4, Apr 1970, pp 339-342

Abstract: The authors studied adsorption of pyrazolones on ashless carbon KAD with specific surface area of 670 m^2/g, and report the adsorption isotherms obtained, from which they conclude that pyrazolone molecules orient themselves by the planes of both rings parallel to the phase separation surface. The values for standard decrease of the free energy of pyrazolone adsorption and their increments per pyrazolone ring have been calculated: for pyrazolone ring it amounts to +0.13 Kcal/mole, for the antipyrine ring -- -1.05 Kcal/mole. The low values of these increments are judged to be due to a shift of the electron density and appearance of charges in case of the antipyrine ring, this being supported by its higher solubility in water (340 g/l at 20o).

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

1/2 007 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--EQUILIBRIUM DISTRIBUTION OF MONO AND DIVALENT IONS IN AN ION EXCHANGER DILUTE AQUEOUS SOLUTIONS SYSTEM --U-

AUTHOR-(03)-ZAGRAY, YA.M., KOGANOVSKIY, A.M., YEREMENKO, A.G.

COUNTRY OF INFO--USSR

SOURCE--UKR. KHIM. ZH. 1970, 36(1), 49-54.

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ION EXCHANGER, AQUEOUS SOLUTION, ION EXCHANGE RESIN/(U)KB4 ION EXCHANGE RESIN, (U)KU2 ION EXCHANGE RESIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/0462 STEP NO--UR/0073/70/036/001/0049/0054

CIRC ACCESSION NO--AP0128032

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

2/2 007 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0128032

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FORMULA OF THE PREVIOUS PAPER IS MODIFIED FOR THE REPLACEMENT OF H PRIME POSITIVE OR OTHER NOMOVALENT CATION BY A DIVALENT CATION (M) TO READ 1-LAMBDA EQUALS (BETA-C SUBINFINITY PRIME2) PLUS ((1-BARC SUBINFINITY) MINUS (BARCM--4 BARC SUBINFINITY PRIME2)) C SUBH, WHERE BETA EQUALS C SUBH PRIME2 -K, LAMBDA EQUALS THE DISTRIBUTION OF THE METAL ION BETWEEN THE RESIN AND THE SOLN., BARC SUBM AND BARC SUBH ARE THE METAL ION AND H PRIME POSITIVE CONCNS. IN THE RESIN, BARC SUBINFINITY IS EXCHANGE CAPACITY OF THE RESIN, C SUBH IS H PRIME POSITIVE CONCN. IN THE EQUIL. SOLN., AND K IS A SELECTIVITY CONST. TABLES AND GRAPHS DEMONSTRATING THE SATISFACTORY APPLICATION OF THIS FORMULA TO THE EQUIL. BETWEEN THE H AND NA FORMS OF KU-2 WITH ZN, MG, CO, CU, AND CA IONS AND OF THE NA FORM OF KB-4 WITH THE SAME CATIONS ARE GIVEN. FACILITY: INST. KOLLOID. KHIM. KHIM. VODY, KIEV, USSR.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

1/2 007 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--EFFECT OF BACKGROUND (SODIUM CHLORIDE CONCENTRATION) ON THE EXTENT OF EXCHANGE CAPACITY UTILIZATION IN KU-2 AND KB-4 CATION EXCHANGERS -U-
AUTHOR-(03)-ZAGRAI, YA.M., KOGANOVSKIY, A.M., YEREMENKO, A.G.

COUNTRY OF INFO--USSR

SOURCE--UKR. KHIM. ZH. 1970, 36(2), 161-3

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CATION EXCHANGE RESIN, SODIUM CHLORIDE, ZINC/(U)KU2 ION EXCHANGE RESIN, (U)KB4 ION EXCHANGE RESIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1999/1848 STEP NO--UR/0073/70/036/002/0161/0163

CIRC ACCESSION NO--AP0123637
UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

2/2 007 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0123637

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TABLES AND GRAPHS ARE GIVEN FOR THE EXCHANGE OF ZN PRIME2POSITIVE WITH THE NA FORMS OF KU-2 AND KB-4 IN THE PRESENCE OF 0-180 G PER L. NACL. THE VALUE OF THE LIMITING COEFF. OF DISTRIBUTION FALLS RAPIDLY WITH NACL CONCN. THE LIMITING COEFF. OF SELECTIVITY IS PRACTICALLY CONST. AS IS THE EXCHANGE CAPACITY OF THE RESIN. FACILITY: INST. KOLLOID. KHIM. KHIM. VODY, KIEV, USSR.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

1/2 C09 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--ABSORPTION OF NONDISSOCIATED MOLECULES AND IONS OF ANILINE FROM AQUEOUS SOLUTIONS BY CATION EXCHANGERS -U-

AUTHOR-(02)-NIKITINA, S.V., KOGANOVSKIY, A.M.

K

COUNTRY OF INFO--USSR

SOURCE--ZH. FIZ. KHIM. 1970, 44(3), 784-6

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CATION EXCHANGE RESIN, AROMATIC AMINE, ANILINE/(U)KU2 ION EXCHANGE RESIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1708 STEP NO--UR/0076/70/044/003/0784/0786

CIRC ACCESSION NO--AP0125329

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

2/2 0C9 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0125329

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CATION EXCHANGER (MARK "KU 2") IN THE H CYCLE, ABSORBED FROM AQ. SOLNS. MAINLY NONDISSOCD. MOLS. OF AROMATIC AMINES. THE ABSORPTION OF THE SAME MOLS. WAS SLIGHT FOR THIS EXCHANGER IN THE NA CYCLE. THE VAN DER WAALS CHARACTER OF ABSORPTION DURING THE NA CYCLE WAS CONFIRMED. THE RELATION BETWEEN CONSTS. OF PROTONATION OF AROMATIC AMINES, AND CONSTS. OF ION EXCHANGE ABSORPTION OF THE SAME COMPDS. WAS FOUND. THE EXCHANGE CONSTS. INCREASED WITH INCREASING ENERGY OF PROTONATION AND REACHED A CONST. VALUE.

FACILITY: INST. KOLLOID. KHIM. KHIM. VODY, KIEV, USSR.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

1/2 028 UNCLASSIFIED PROCESSING DATE--30OCT7

TITLE--CYTOCHEMICAL INVESTIGATION OF LYMPHOID TISSUE IN THE CASE OF CHRONIC LYMPHATIC LEUCOSIS IN MAN -U-

AUTHOR-(04)-KOGARKO, I.N., KOGARKO, B.S., YEVSEYENKO, L.S., FUKS, B.B.

COUNTRY OF INFO--USSR

SOURCE--IZVESTIYA AKADEMII NAUK SSSR, SERIYA BIOLOGICHESKAYA, 1970, NR 6, PP 348-355

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--LYMPHOID TISSUE, RNA, DNA, AUTORADIOGRAPHY, LEUKOCYTOSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/1377 STEP NO--UR/0216/70/000/006/0348/0355

CIRC ACCESSION NO--AP0126921

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

2/2 028 UNCLASSIFIED PROCESSING DATE--30OCT7(

CIRC ACCESSION NO--AP0126921

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CELLS OB BIOPSIZED LYMPHATIC NODES OF 8 HEALTHY PEOPLE AND 6 PATIENTS SUFFERING FORM HUMAN LYMPHATIC LEUCOSIS WERE EXAMINEA. RNA AND DNA BIOSYNTHESIS (AUTORADIOGRAPHY) AS WELL AS DNA CONTENTS (CYTOPHOTOMETRY) WERE DETERMINED IN A SINGULAR CELL. IT WAS SHOWN THAT IN THE COURSE CF THE PROGRESS OF THE DISEASE AN INCREASE IN OBSERVED OF RNA SYNTHESIS SPEED IN MEDIUM AND LARGE LYMPOCYTES AS WELL AS IN BLASTS. AT THE SAME TIME THE NUMBER OF CELLS SYNTHESIZING DNA (FROM 8PERCENT, TO 0.7PERCENT) DROPS DOWN. IN SPITE OF IT THE CELL FRACTION RICH IN DNA BECOMES DEFINITELY INCREASED. THESE CELLS DISPLAY A RELATIVE HIGH RNA SYNTHESIS. APPEARANCE OF A CONSIDERABLE NUMBER OF CELLS WITH A HIGH DNA COMTENTS BUT NO LONGER SYNTHESIZING THE COMPOUND MAY BE A RESULT OF LAGGING DURING THIS PERIOD. THE RELATIVELY HIGH ELVEL OF RNA SYNTHESIS IN SUCH CELLS EVIDENTLY CANNOT BE CONNECTED WITH GENE ACTIVITY CONTROLLING PROLIFERATION. ONE MAY SUGGEST THAT THE OBSERVED PHENOMENA MAY DEPEND ON AN UNUSUAL BREAKAGE UF THE PROLIFERATION MECHANISM IN LYMPHOID CELLS IN THE CASE OF CHRONIC LYMPHOLEUCOSIS. AN ACTIVATION OF SOME GENES OF A MALIGNIZED LYMPHOCYTE BECOMES MOVE EVIDENT ON THIS BACKGROUND. FACILITY: INSTITUTE OF CHEMICAL PHYSICS, ACADEMY OF SCIENCES, USSR.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

1/2 028 UNCLASSIFIED PROCESSING DATE--30OCT7

TITLE--CYTOCHEMICAL INVESTIGATION OF LYMPHOID TISSUE IN THE CASE OF CHRONIC LYMPHATIC LEUCOSIS IN MAN -U-

AUTHOR-(04)-KOGARKO, I.N., KOGARKO, B.S., YEVSEYENKO, L.S., FUKS, B.B.

COUNTRY OF INFO--USSR

SOURCE--IZVESTIYA AKADEMII NAUK SSSR, SERIYA BIOLOGICHESKAYA, 1970, NR 6, PP 348-355

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--LYMPHOID TISSUE, RNA, DNA, AUTORADIOGRAPHY, LEUKOCYTOSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/1377 STEP NO--UR/0216/70/000/006/0348/0355

CIRC ACCESSION NO--AP0126921

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

2/2 028 UNCLASSIFIED PROCESSING DATE--30OCT7C

CIRC ACCESSION NO--AP0126921

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CELLS OB BIOPSIZED LYMPHATIC NODES OF 8 HEALTHY PEOPLE AND 6 PATIENTS SUFFERING FORM HUMAN LYMPHATIC LEUCOSIS WERE EXAMINEA. RNA AND DNA BIOSYNTHESIS (AUTORADIOGRAPHY) AS WELL AS DNA CONTENTS (CYTOPHOTOMETRY) WERE DETERMINED IN A SINGULAR CELL. IT WAS SHOWN THAT IN THE COURSE OF THE PROGRESS OF THE DISEASE AN INCREASE IN OBSERVED OF RNA SYNTHESIS SPEED IN MEDIUM AND LARGE LYMPOCYTES AS WELL AS IN BLASTS. AT THE SAME TIME THE NUMBER OF CELLS SYNTHESIZING DNA (FROM 8PERCENT, TO 0.7PERCENT) DROPS DOWN. IN SPITE OF IT THE CELL FRACTION RICH IN DNA BECOMES DEFINITELY INCREASED. THESE CELLS DISPLAY A RELATIVE HIGH RNA SYNTHESIS. APPEARANCE OF A CONSIDERABLE NUMBER OF CELLS WITH A HIGH DNA COMTENTS BUT NO LONGER SYNTHESIZING THE COMPOUND MAY BE A RESULT OF LAGGING DURING THIS PERIOD. THE RELATIVELY HIGH ELVEL OF RNA SYNTHESIS IN SUCH CELLS EVIDENTLY CANNOT BE CONNECTED WITH GENE ACTIVITY CONTROLLING PROLIFERATION. ONE MAY SUGGEST THAT THE OBSERVED PHENOMENA MAY DEPEND ON AN UNUSUAL BREAKAGE OF THE PROLIFERATION MECHANISM IN LYMPHOID CELLS IN THE CASE OF CHRONIC LYMPHOLEUCOSIS. AN ACTIVATION OF SOME GENES OF A MALIGNIZED LYMPHOCYTE BECOMES MOVE EVIDENT ON THIS BACKGROUND. FACILITY: INSTITUTE OF CHEMICAL PHYSICS, ACADEMY OF SCIENCES, USSR.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

USSR UDC 532.593

GEL'FAND, B. Ye., GUBIN, S. A., KOGARKO, S. M., Moscow

"Amplification of Shockwaves with Triangular Pressure Profile in a Hot, Two-Phase Medium"

Zhurnal Prikladnoy Mekhaniki i Tekhnicheskoy Fiziki, No 1, 1972, pp 119-122.

Abstract: Earlier works have established the parameters of compression waves with rectangular pressure-change profile beyond the leading edge of the wave necessary to produce an unstable combustion mode when these waves interact with a flammable two-phase, gas-liquid medium. The case of the interaction of arbitrary compression waves with a hot two-phase medium is more difficult to study but more interesting for practical purposes. This article presents a study of this condition, involving the interaction of shockwaves with variable parameters (pressure and velocity) behind the leading edge with a heterogeneous combustible system. The results produced in the earlier works concerning the parameters of critical perturbations of pressure are compared with those produced in the present work. It is found that amplification of compression waves with a triangular profile of pressure change is possible if the intensity of the waves is greater than a certain critical intensity.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

UDC 541.126:547.211

USSR

BASEVICH, V. YA., KOGARKO, S. M., and FURMAN, G. A., Institute of Chemical Physics, Academy of Sciences USSR

"Mechanism of Methane Combustion. 2 Communication. 'Uni-Dimensional' Atomic Flame"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 10, Oct 71, pp 21-91-2196

Abstract: To obtain complete data on the combustion of methane, the atomic flame method was utilized. In the course of the experiments it was determined that CO_2 may form in considerable quantities under conditions when the CO added artificially to the methane remains practically unchanged. Hence a route for the appearance of CO_2 is postulated by-passing the stage of CO formation. Combustion of an atomic flame, especially in case of a "coaxial" system is a very complex process in which during the initial stage the crucial role is played by radial and axial diffusion and heat transfer. The composition of combustion products in an active flame was determined and reported in relative concentrations, giving satisfactory agreement between the theoretical and experimental values. The lack of experimental data makes it impossible to select precisely the mechanism for the combustion of methane.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

USSR

BASEVICH, V. YA., et al., Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 10, Oct 71, pp 2191-2196

A mechanism based on uni-dimensional flame has been derived, which agreed with observed data: lowering of the temperature decreases the reaction depth, increase in the concentration of $[O]_0$ with constant $[CH_4]_0$ or decrease in $[CH_4]_0$ concentration with constant $[O]_0$ results in more complete combustion; decrease in $[O_2]_0$ concentration is accompanied by an increased production of $[H_2]$ and $[CO]$.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

1/2 058 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--AMPLIFICATION OF WEAK SHOCK WAVES IN A BURNING TWO PHASE LIQUID GAS SYSTEM -U-
AUTHOR-(05)-BORISOV, A.A., GELFAND, B.YE., GUBIN, S.A., KOGARKO, S.M., PODGREBENKOV, A.L.
COUNTRY OF INFO--USSR

SOURCE--PMTF ZHURNAL PRIKLADNOI MEKHANIKI I TEKHNICHESKOI FIZIKI, JAN.-FEB. 1970, P. 168-173
DATE PUBLISHED--------70

SUBJECT AREAS--PROPULSION AND FUELS

TOPIC TAGS--SHOCK WAVE, COMBUSTION R AND D, KEROSINE, OXYGEN, COMBUSTION RATE, MACH NUMBER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/1550 STEP NO--UR/0207/70/000/000/0168/0173

CIRC ACCESSION NO--AP0118533
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2/2 058 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0118533

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CONSIDERATION OF THE SPECIAL FEATURES OF THE INTERACTION BETWEEN WEAK SHOCK WAVES AND BURNING DROPLETS OF LIQUID FUEL (KEROSENE) IN AN ATMOSPHERE OF GASEOUS OXYGEN. IT IS FOUND THAT THE AMPLIFICATION OF WEAK SHOCK WAVES IN THE MACH NUMBER RANGE FROM 1.1 TO 1.3 IN A REACTING TWO PHASE LIQUID DROPLET GAS MIXTURE OCCURS AS A RESULT OF A SHARP INCREASE IN THE MASS COMBUSTION RATE OF THE FUEL OWING TO ATOMIZATION OF THE DROPLETS. THE INCREASE IN THE MASS COMBUSTION RATE BEHIND THE SHOCK FRONT LEADS TO AN INCREASE IN HEAT GENERATION AND TO THE FORMATION OF A COMPRESSION WAVE WHICH OVERTAKES THE LEADING EDGE OF THE SHOCK WAVE.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

Acc. Nr: AT0100174 Abstracting Service: CHEMICAL ABST. 70 Ref. Code: UR 0020

113448g **Mechanism of the formation of a compression wave behind a weak shock wave front propagating in a combustible two-phase mixture.** Borisov, A. A.; Gel'fand, B. E.; Gubin, S. A.; Kogarko, S. M.; Podgrebenkov, A. L. (Inst. Khim. Fiz., Moscow, USSR). *Dokl. Akad. Nauk SSSR* 1970, 190(3), 621–4 [Phys Chem] (Russ). The formation of a compression wave behind a weak shock front (Mach no. = 1.05–1.3) was studied in a shock tube contg. kerosine droplets in a N-O atm. Drop sizes of 0.5 and 2 mm were used. The gas phase varied (30–70% N) and initially was at 1 atm and 25° before introduction of the shock wave. The formation of the compression wave and its redistribution in the shock wave were followed by pressure recordings. The principal reason for the formation of a compression wave is the breaking down of the fuel droplets. This occurs in 2 stages. Initially, ~10% of the drops break into 100 μ droplets because of a collapse of the surface of the coarse drops. These fine drops quickly vaporize. The final stage is a flattening of the drops by the pressure of the gas stream, followed by a complete breakup into fine droplets. The formation of the compression wave depends primarily on the mixt. compn., the drop size of the fuel, and the intensity of the initial pressure of the shock wave.
E. E. Toops, Jr.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

1/2 047 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--ELECTRONIC AND VIBRATIONAL EXCITATIONS IN REACTIONS OF HYDROGEN WITH OXYGEN AT HIGH TEMPERATURES -U-

AUTHOR-(03)-KOGARKO, S.M., MOZZHUKIN, E.V., ZASLONKO, I.S.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER KHIM. 1970, (1) 31-6

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--HYDROGEN, OXYGEN, HIGH TEMPERATURE, SHOCK WAVE, VIBRATION EFFECT, ELECTRONIC SIMULATION, CHEMICAL REACTION, EXCITATION ENERGY, PHOTOMETRY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1984/0180 STEP NO--UR/0060/70/000/001/0031/0036

CIRC ACCESSION NO--AP0054976
UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

2/2 047 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0054976

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A SHOCK WAVE STUDY OF THE O SUB2NEGATIVE H SUB2 REACTION WAS REPORTED IN AN AR ATM. AT 1190-1390DEGREES K AND 1-35 ATM. TOTAL PRESSURE. IN THE EARLY PAHSES OF THE REACTION, A CONSIDERABLE SUPEREQUIL. EXCITATION OF HO RADICALS TAKES PLACE AS WELL AS IN H SUB2 O MOLS.; THE ELECTRONIC EXCITATION WAS OBSD. IN HO RADICALS AND NA ATOMS ON THE BASIS OF EMISSION PHOTOMETRY OF THE SYSTEM. DURING THE INDUCTION PERIOD, THE ELECTRONIC EXCITATION OF HO IS CAUSED MAINLY BY THE REACTION H PLUS H SUB2 PLUS O SUB2 YIELDS OH PLUS H SUB2 O WHILE AT HIGH PRESSURES IT IS ALSO PROMOTED BY A RECOMBINATION OF H AND O. THE VIBRATIONAL EXCITATION OF H SUB2 O MOLS. PROBABLY IS THE RESULT OF THE REACTIONS: HO SUB2 PLUS H SUB2 YIELDS H SUB2 O PLUS OH AND HO PLUS H SUB2 YIELDS H SUB2 O PLUS H. THE SUPEREQUIL. ELECTRONIC EXCITATION OF NA ATOMS PROBABLY IS THE RESULT OF COLLISION WITH OH AND H SUB2 O THAT HAVE SUFFICIENT EXCESS VIBRATIONAL ENERGY.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

USSR

ZASLONKO, I.S., et al, Kinetika i Kataliz, Vol 11, No 2, Mar-Apr 70, pp 296-304

standpoint, the decomposition of MeONO consisted of two stages. In the first, in which energy was practically neither evolved nor consumed, formation of H_2CO, MeOH, and NO took place after cleavage of the O-N bond, while in the second, in which the principal amount of energy was evolved, oxidation of H_2CO and MeOH occured.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

1/2 049 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--VIBRATIONAL EXCITATION IN BRANCHED CHAIN REACTIONS -U-

AUTHOR-(03)-ZASLONKO, I.S., KOGARKO, S.M., MOZZHUKHIN, E.V.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (1), 157-9

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--HYDROGEN, OXYGEN, SHOCK TUBE, EXCITED STATE, CHEMICAL REACTION MECHANISM, VIBRATION EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1984/1656 STEP NO--UR/0062/70/000/001/0157/0159

CIRC ACCESSION NO--AP0100260

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401410015-4

2/2 049 UNCLASSIFIED PROCESSING DATE--19SEP70

CIRC ACCESSION NO--AP0100260

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FROM DATA ON THE REACTION OF H SUB2 WITH O SUB2 IN SHOCK TUBE EXPTS. (Z., ET AL., 1970) THE MAGNITUDE OF VIBRATIONAL TEMP. DURING THE INDUCTION PERIOD OF THE REACTION WAS DEDUCED; THIS CONTRIBUTION OF O VIBRATIONAL EXCITATION ON THE BRANCHING PROCESS OF THE REACTION PROVIDES EXCITED HO SUB2 PARTICLES WITH A RESERVE VIBRATIONAL ENERGY OF LARGER THAN OR EQUAL TO 65 KCAL-MOLE, ARISING FROM EXCITED O MOLES. CONTG. VIBRATIONAL ENERGY OF MORE THAN 17 KCAL-MOLE.

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1/2 021 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--THERMAL DECOMPOSITION OF METHYL NITRITE IN SHOCK WAVES. I. INITIAL STAGE OF THE DECOMPOSITION AND MECHANISM OF H SUB 2 CO* CHEMILUMINESCENCE.

AUTHOR--ZASLONKO, I. S., KOGARKO, S. M., MOZZHUKHIN, E. V., PETROV, YU. P., BORISOV, A. A

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2/2 021 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0132389

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DECOMPN. OF MEONO IN SHOCK WAVES (780-1000DEGRESSK AND 35-1.6 ATM) WAS STUDIED SPECTROPHOTOMETRICALLY ALONG WITH DETN. OF ABS. INTENSITY OF EMISSION BY EXCITED H SUB2 CO SEXTILE AND HNO SEXTILE MOLS. THE EXPT. REVEALS THAT ENERGYWISE, MEONO DECOMPN. PROCEEDS IN 2 STAGES: 1) THERMALLY NEUTRAL STAGE WHEN H SUB2 CO, NO, AND MEOH ARE FORMED; AND 2) THE BASIC STAGE OF ENERGY EMISSION TAKING PLACE DURING OXIDN. OF H SUB2 CO AND MEOH. RATE CONST. OF THE PRIMARY CLEAVAGE OF N-O BOND IS K SUB1 EQUALS 10PRIME12.9 EXP (MINUS 34,000-RT) SEC PRIME NEGATIVE1. THE EXCITED H SUB2 CO SEXTILE FORMS BY DISPROPORTIONATION OF 2 MEO RADICALS. H SUB2 CO SEXTILE FORMS IMMEDIATELY AFTER INITIATION OF MEONO DECOMPN., ITS CONCN. REACHES A MAX. AND THEN DECREASES PRACTICALLY TO ZERO. THE EMISSION BY H SUB2 CO SEXTILE HAS CHEMILUMINESCENT AND NOT A THERMAL NATURE. CONCN. OF HNO SEXTILE INCREASED UNTIL THE END OF OBSERVATIONS. FACILITY: INST. KHIM. FIZ., MOSCOW, USSR.

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USSR UDC 532.542

KOGAY, G. N., LAVROV, B. Ye.

"Experimental Study of Hydraulic Resistance of Models of Various Types of Venturi Tubes"

Probl. Teploenerg. i Prikl. Teplofiz. Vyp. 8 [Problems of Heat Engineering and Applied Heat Physics, No 8 -- Collection of Works], Alma-Ata, Nauka Press, 1972, pp 131-136, (Translated from Referativnyy Zhurnal, Mekhanika, No 11, 1972, Abstract No 11 B518 by the author's).

Translation: Results are presented from a comparative experimental study of the hydraulic resistance of various Venturi tube models with various geometric relationships and shapes as a function of mode parameters. The characteristics produced can be used to evaluate structural and arrangement versions for reconstruction of wet ash-trapping systems at thermal electric power plants. 6 Biblio. Refs.

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UDC 620.178.3

USSR

KOGAYEV, V. P., and KIRIN, V. V., Moscow

"Statistical Characteristics of the Fatigue Strength of Heat-Resistant Steel iKh18N9T in Steady-State and Programmed Modes of Loading at Elevated Temperatures"

Kiev, Problemy Prochnosti, No 6, 1973, pp 8-10

Abstract: Statistical characteristics are presented for the fatigue of heat-resistant steel iKh18N9T at 600 and 750°C under steady-state loading modes and three- and four-step programmed tests. From the resulting data it was found that in the programmed tests the durability (long-time strength) is a function of total longevity. With increase of the latter, as in the steady-state modes, the standard deviation grows and in the programmed tests substantial deviations from the linear hypothesis of damage accumulation were observed. Consequently, in calculating the long-time strength of iKh18N9T steel it is necessary to introduce the corresponding corrections of the linear hypotheses taking into account the shape of the programming block in relative magnitudes. Two figures, four tables, five bibliographic references.

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